

AMENDMENTS TO THE CLAIMS

The following is a complete listing of claims with a status identifier in parentheses. These claims supersede all previous listing of claims.

Listing Of Claims

2-7, 9-11, 13-23. (Cancelled)

24. (Currently Amended) A fuel bundle for a boiling water reactor, comprising:

a channel generally square, hollow tube having four sides representing which are configured as sides of the bundle ~~and having an opening therein,~~

a pair of circular-shaped water passages located adjacent to a longitudinal centerline of the ~~channel tube~~ so as to extend centrally through the tube channel, the pair of water passages supported by one or more rod supports,

a plurality of fuel rods arranged in one of a 10x10, 9x9 and 8x8 matrix and including full-length rods and part-length rods ~~arranged as a plurality of concentric fuel rod rings within the channel around the water passages,~~ the part-length rods further comprising:

a first part-length rod group ~~consisting of~~ including two subsets in a mirror-image relationship along the centerline between the two water passages, facing relationship to one another, each subset further comprising ~~consisting of~~ three part-length fuel rods in a triangular orientation with one rod of the subset closer to the longitudinal centerline between the two water passages than the other two rods of the subset and directly adjacent to the other two rods of the subset, and directly adjacent to a given side of the pair of water passages so as to face the other subset on the other side of the water passage pair, and

a second part-length rod group ~~consisting of~~ including four pairs of part-length rods, each intermediate part-length rod pair centrally located in an the outermost ring row or column of the 10x10, 9x9 or 8x8 matrix of the bundle adjacent a corresponding one of the four sides of the tube channel.

25. (Currently Amended) The fuel bundle of claim 2124, wherein the fuel rods are configured as a 10X10 fuel-rod matrix within the channel.

26. (Currently Amended) The fuel bundle of claim 2124, wherein a plurality of voids are formed above upper ends of each of the part-length fuel rods to the top of the fuel bundle, and the voids filled with water is configured to trap neutrons for improving a shutdown margin for the boiling water reactor.

27. (Currently Amended) The fuel bundle of claim 2124, wherein there are a total of 14 part-length rods therein.

28. (Currently Amended) A fuel bundle for a boiling water reactor, comprising:
a pair of centrally located, circular-shaped water passages arranged on either side of a longitudinal centerline of the bundle within a 10X10 fuel-rod matrix bounded by four sides of a generally square, hollow tube channel, the fuel rods including full-length and part-length fuel rods,

wherein the 10X10 fuel-rod matrix ~~consists of~~ includes two, three part-length rod subsets in a mirror image relationship with one another along the longitudinal centerline between the two water passages, each three-rod subset configured in a triangular orientation and directly adjacent to the pair of water passages such that one rod of the three-rod subset is closer to the centerline than the other two rods and directly adjacent to the other two rods, so as to face the other subset, and ~~consists of comprising~~ eight additional part-length rods arranged in four pairs, each pair centrally located on an outermost row or column of the matrix nearest a corresponding one of the ~~channel tube~~ sides.

29. (Currently Amended) The fuel bundle of claim 28, wherein a plurality of voids are formed above upper ends of each of the part-length fuel rods to the top of the fuel bundle, and the voids filled with water is configured to trap neutrons for improving a shutdown margin for the boiling water reactor.

30. (Canceled)

31. (Currently Amended) A fuel bundle for a boiling water reactor, comprising:

a single, square-shaped water passage located off-center within a 10x10 fuel-rod matrix bounded by four sides of a generally square, hollow tube channel, the fuel rods including full-length and part-length fuel rods,

wherein the 10X10 fuel-rod matrix ~~consists of~~ includes a first rod group comprising ~~consisting of~~ two pairs of part-length rods arranged on either side of a corner of the square water-passage, and a second rod group ~~consisting of~~ comprising two pairs of part-length rods and at least two non-paired part-length rods, each of the two pairs and the at least two non-paired part-length rods located in a corresponding outermost row or column of the matrix adjacent a corresponding side of the tubechannel.

32. (Currently Amended) The fuel bundle of claim 31, wherein a plurality of voids are formed above upper ends of each of the part-length fuel rods to the top of the fuel bundle, and the voids filled with water is configured to trap neutrons for improving a shutdown margin for the boiling water reactor.

33. (New) The fuel bundle of claim 31, wherein there are a total of eleven part-length rods within the 10X10 matrix.